

# **CLAIMS**

1. A method for creating a summary document, the method comprising:

storing data objects from a plurality of sources;

5 mining the data objects; and

generating a summary document using the mined data objects.

2. The method of claim 1 wherein mining data objects includes mining data objects that include marked up data; and

wherein generating a summary document using the mined data objects includes generating a summary document using the marked up data.

3. The method of claim 2 wherein mining the data objects includes mining marked up data from the group including physician transcriptions, audio records, and graphical records; and

wherein generating a summary document using the mined data objects includes generating a clinical resume.

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4. The method of claim 3 wherein mining data objects includes mining data objects that include physician transcripts; and

wherein generating a summary document using the mined data objects includes generating a clinical resume for the treatment of a first patient using the physician transcriptions.

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5. The method of claim 4 further comprising:  
entering information including coding data, discharge instructions, laboratory results, pharmacy records, audio and graphical records, and physician transcriptions in an electronic  
5 format from a plurality of sources;  
marking up the coding data, discharge instructions, laboratory results, and pharmacy records as tagged data;  
marking up the audio and graphical records, and physician transcriptions as marked up data;  
10 parsing the marked up data and tagged data into data objects; and  
wherein storing data objects from a plurality of sources includes storing the marked up data and tagged data.
- 15 6. The method of claim 5 wherein generating a summary document using the mined data objects includes generating a clinical resume for the treatment of a first patient using the marked up data and the tagged data.
- 20 7. The method of claim 6 further comprising:  
triggering the creation of a clinical resume for the first patient; and  
wherein generating a summary document using the mined data objects includes automatically generating a clinical  
25 resume within a first number of days of the triggering.

8. The method of claim 7 wherein entering physician transcriptions includes entering transcription sections concerning present illness, history of present illness, impressions on admission, impressions and plans on admission, admitting diagnosis, diagnosis  
5 on admission, consultation data, impression and plan from consultation, impression from consultation, and diagnosis from consultation information.

9. The method of claim 5 wherein marking up the  
10 coding data, discharge instructions, laboratory results, and pharmacy records as tagged data, and the audio and graphical records, and physician transcriptions as marked up data includes marking up in accordance with a protocol selected from the group including HTML, XML, SGML, and equivalent protocols.

15 10. The method of claim 5 wherein storing the marked up data includes storing the marked up data as data binary large objects (BLOBs).

20 11. The method of claim 7 wherein entering coding data, discharge instructions, laboratory results, pharmacy records, audio and graphic records, and physician transcriptions as information in an electronic format includes entering the information in an untagged data format; and  
25 the method further comprising:

converting the untagged data into a format suitable for marking up.

12. The method of claim 11 further comprising:  
5 entering the admission and discharge dates, transfer information, and attending physician information as untagged data in an ADT file;

converting the untagged data in the ADT file to tagged data;  
10 parsing the ADT file into tagged data objects; and storing the tagged data objects of the ADT file.

13. The method of claim 12 wherein entering the discharge data triggers the creation of the clinical summary.

14. The method of claim 5 further comprising:  
following the marking up the coding data, discharge instructions, laboratory results, and pharmacy records as tagged data, and the audio and graphical records, and physician  
20 transcriptions as marked up data, checking the data objects for errors, inconsistent data, and incompletely entered data; and  
in response to checking the data objects, choosing a correction procedure selected from the group including noting errors, permitting error overrides, returning the source document for  
25 correction, and re-parsing entered data after correction.

15. The method of claim 5 further comprising:

following the generation of the clinical resume, checking the clinical resume for errors, inconsistent data, and incompletely entered data; and

5 in response to checking the clinical resume, choosing a correction procedure selected from the group including permitting error overrides, returning the source document for correction, and re-parsing entered data after correction.

10 16. The method of claim 5 wherein entering coding data, discharge instructions, laboratory results, and pharmacy records includes entering data selected from the group including patient identity fields, account number, worktype ID, job number, transcriptionist ID, dictation date, creation date, facility identity  
15 fields, physician identity fields, discharge diagnosis coding fields, procedure coding fields, discharge coding fields, laboratory result fields, audio and graphic recordings, and radiation result fields.

17. The method of claim 5 wherein entering physician  
20 transcriptions includes entering transcriptions identified as Reasons for Admission, Impression on Admission, and Consultations; and wherein generating the clinical resume includes automatically generating a clinical resume with text sections including the transcribed Reasons for Admission texts, Impression on  
25 Admission texts, and Consultations.

18. The method of claim 5 further comprising:

following the parsing of the marked up data and tagged data into data objects, entering modifications and corrections to the originally entered coding data, descriptive information, laboratory results, pharmacy records, audio and graphical records, and physician transcriptions;

storing the modifications as data objects; and  
tracking the original and modified data objects.

10 19. A method for creating a clinical resume, the method comprising:

parsing medical event data relating to a first patient;  
storing the parsed medical event data;  
discharging the first patient; and

15 in response to discharging the first patient, automatically generating a clinical resume from the parsed medical event data in storage.

20 20. A system for creating a summary document from stored data, the system comprising:

a database having an input to accept information from a plurality of sources, store the information in an electronic format as data objects, and supply the data objects at an output; and

25 an assembly engine having a first input connected to the database output, and having an output to supply a summary document generated by mining the data objects in the database.

21. The system of claim 20 wherein the database  
accepts and stores marked up data objects; and  
wherein the assembly engine supplies a summary  
5 document by mining the marked up data objects.

22. The system of claim 21 wherein the database  
accepts and stores physician transcriptions, audio records, and  
graphical records as marked up data objects.

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23. The system of claim 22 further comprising:  
a parsing engine having an input to accept coding data,  
discharge instructions, laboratory results, pharmacy records, audio  
and graphical records, and physician transcription information, the  
15 parsing engine marking up and supplying the coding data, discharge  
instructions, laboratory results, and pharmacy records as tagged data  
and the audio and graphical records, and physician transcriptions as  
marked up data at an output connected to the database input; and  
wherein the database stores the tagged data and marked  
20 up data as data objects.

24. The system of claim 23 wherein the database stores  
the marked up data objects as data binary large objects (BLOBs).

25. The system of claim 23 wherein the parsing engine marks up the input information into a protocol selected from the group including HTML, XML, SGML, and equivalent protocols.

5 26. The system of claim 25 wherein the assembly engine has an input to accept a trigger signal for creating the clinical resume; and

wherein the assembly engine generates the clinical resume from the mined data objects automatically within a first  
10 number of days of receiving the trigger signal.

27. The system of claim 26 wherein the parsing engine accepts physician transcriptions concerning present illness, history of present illness, impressions on admission, impressions and plans on  
15 admission, admitting diagnosis, diagnosis on admission, consultation data, impression and plan at consultation, impression from consultation, and diagnosis from consultation.

28. The system of claim 27 further comprising:  
20 a file converter having an input to accept coding data, discharge instructions, laboratory results, pharmacy records, audio and graphical records, and physician transcription information as untagged data, and an output connected to the input of the parsing engine to supply the input information in a format suitable for  
25 marking up; and



wherein the parsing engine marks up the converted input information as tagged data and marked up data.

29. The system of claim 28 wherein the file converter  
5 accepts patient admission, discharge date, transfer information, and  
the attending physician as untagged data in an ADT file and converts  
the ADT file into a format suitable for marking up;

wherein the parsing engine marks up the untagged data  
in the converted ADT file;

10 wherein the database accepts the tagged data and  
marked up data from the parsing engine; and

wherein the assembly engine generates a clinical resume  
with information mined from the ADT file.

30. The system of claim 29 wherein the database  
15 supplies the discharge data to the assembly engine; and

wherein the assembly engine automatically generates the  
clinical summary in response to receiving the discharge date.

31. The system of claim 29 further comprising:  
20 an validator having an input connected to the output of  
the file converter, the validator checking the converted input  
information for errors, inconsistent data, and incompletely entered  
data, the validator having a first output connected to the parsing  
25 engine input to supply accepted input information and a second  
output to supply unaccepted input information with notated errors,

the validator having a second input to accept correction procedures for the unaccepted input information selected from the group including permitting error overrides, correcting errors, returning the entered information for correction, and supplying the input  
5 information to the parsing engine after correction.

32. The system of claim 31 wherein the validator has a third input connected to the output of the assembly engine to check the clinical resume for errors, inconsistent data, and incompletely  
10 entered data, the validator supplying accepted clinical resumes at a third output and unaccepted clinical resumes with notated errors at the second output, and wherein the second input of the validator accepts correction procedures selected from the group including permitting error overrides, correcting errors, returning the entered  
15 information for correction, and reentering the clinical resume after correction.

33. The system of claim 32 wherein the parsing engine accepts coding data, discharge instructions, laboratory results, and  
20 pharmacy records selected from the group including patient identity fields, account number, worktype ID, job number, transcriptionist ID, dictation date, creation date, facility identity fields, physician identity fields, discharge diagnosis coding fields, procedure coding fields, discharge coding fields, laboratory result fields, and radiation result  
25 fields.

34. The system of claim 33 wherein the parsing engine marks up and stores a plurality of physician transcriptions identified as Reasons for Admission, Impression on Admission, and Consultations; and

5                    wherein the assembly engine automatically generates a clinical resume with a plurality of Reasons for Admission, Impressions on Admission, and Consultations transcriptions mined from the database.

10                   35. The system of claim 34 wherein the parsing engine accepts modifications and corrections to the originally entered coding data, descriptive information, laboratory results, pharmacy records, audio and graphical records, and physician transcriptions, and stores the modifications as data objects in the database; and

15                   wherein the assembly engine tracks the original and modified data objects.

36. A method for creating a medical discharge summary document, the method comprising:

20                   data mining a plurality of physician transcriptions that describe medical observations; and  
                     generating a medical discharge summary document from the medical observations.